FM: **"RMP Executive Summary [134.67.6.44]" <repository@RTK.NET>,** 09/06/2002 08:40 AM
TO: Robert Werner/R6/USEPA/US@EPA
Subj: RE: Cedar Chemical - Request for Facility Operational History & State Violations

Facility Name: Cedar Chemical Corporation
Helena, AR 72342
Parent Company: Trans Resources, Inc.
RMP Facility ID: 100000139888
Submission Receipt Date: 06/24/1999
(This set of RMP executive summaries was last updated on 6/25/2001).

RMP Executive Summary below:

1.0 Accidental Release Prevention And Response Policies

Cedar Chemical Corporation has a long standing commitment to operating our facility in a manner that is safe for our employees, the public, and the environment. A primary component of this commitment is the Cedar Chemical Corporation's system that helps ensure the safe operation of our processes. Our commitment is also demonstrated by the resources invested in accident prevention, such as considering safety in the design, installation, operation and maintenance of our processes, as well as, extensive training of our operating personnel. In the event of an accidental release, Cedar Chemical Corporation has developed procedures which are designed to control and contain the release in a manner which will be safe for our employees and will help prevent injury to the public and the environment. Cedar Chemical Corporation emergency response personnel receive thorough training in handling accidental releases. An emergency response coordinator has been assigned to oversee any response activities and to coordinate response efforts with local emergency agencies. Communications with the Local Emergency Response Committee (LEPC) have been ongoing throughout the preparation of this plan and policies. In order to effectively implement the Company's release prevention and response policies, Cedar Chemical Corporation established a management system headed by the Environmental Manager to ensure the proper implementation and effectiveness of our Risk Management Program (RMP).

2.0 Cedar Chemical Corporation And Regulated Substances

Cedar Chemical Corporation, located in Helena, Arkansas, is primarily involved in the manufacture of pesticides and agricultural products. To manufacture our products, Cedar Chemical Corporation utilizes several regulated substances in sufficient quantities to be covered by the RMP rule. The following table lists the Cedar Chemical Corporation RMP covered processes and the associated Regulated Substances with their respective maximum quantities:

Process Description	Program Level	Regulated Substance	Maximum Quantity (lbs)
1. Diuron	3	Dimethylamine	110,000
2. Acifluorfen	3	Nitric Acid (98%)	98,732
3. DCA	3	Nitric Acid (98%)	153,248
	3	Hydrogen (gas)	2,646.9
	3	Hydrogen (liquid)	10,743.0

3.0 Hazard Assessment Results

Cedar Chemical Corporation performed an offsite consequence analysis to estimate the potential impacts of accidental releases of the Regulated Substances from our processes. Each of the Regulated Substances was evaluated for possible worse-case release scenarios and alternative release scenarios. It is important to understand that Cedar Chemical Corporation has invested extensive resources to prevent releases and the potential for a worse-case release is extremely small. The alternative release scenarios represent a more realistic potential for occurrence and are based on historical data from our processes or other similar processes. By identifying these potential releases, Cedar Chemical Corporation has developed an extensive program to prevent such occurrences. This program is discussed in detail in the "Prevention Program" section of this plan. The primary objective of performing the offsite consequences analysis is to determine the distance at which certain effects might occur to the public and/or the environment as a result of an accidental release. This point is called the endpoint distance. At distances less than the

endpoint distance, the effects would be greater; at distances farther than the endpoint, the effects would be less.

3.1 Hazard Assessment - Toxic Substances

The worst-case scenario (WCS) associated with Regulated Toxic Substances is a failure of a nitric acid storage tank containing 98,732 pounds of 98 percent by weight nitric acid. The nitric acid is spilled into a 19x19x2 foot diked area, which mitigates the release to some extent. Because of the facility's location, the toxic cloud formed by the evaporating nitric acid would reach offsite endpoints in populated areas and nearby public receptors. An alternative release scenario (ARS) for nitric acid is a ruptured unloading hose spilling the 98 percent by weight nitric acid to the pavement. There is no secondary containment to mitigate the release. It would require the standby operator approximately 2 minutes to close the emergency valve to stop the release. The toxic cloud formed by the evaporating nitric acid would reach nearby offsite receptors, but would not reach densely populated areas.

3.2 Hazard Assessment - Flammable

The worst-case scenario (WCS) associated with a Regulated Flammable Substance is the failure of a rail tankcar containing 110,000 pounds of dimethylamine (DMA). Though Cedar Chemical Corporation has numerous controls to prevent such releases, no administrative controls, passive mitigation or active mitigation measures were considered for this release scenario. The maximum distance to the 1-psi overpressure would reach offsite endpoints in populated areas and nearby public receptors. It should be noted that although not required by the RMP Rule, Cedar Chemical Corporation conducted WCS offsite consequence analyses on other flammable chemicals used at the facility. These chemicals are used in processes which are covered by the OSHA Process Safety Management standard and have comprehensive safety programs in place to prevent and respond to releases. WCS for some of these chemicals have similar offsite endpoints as the dimethylamine. An alternative release scenario (ARS) for dimethylamine is a ruptured unloading hose resulting in a flash fire. The maximum distance to the Lower Flammability Limit (LFL) endpoint would reach only nearby offsite receptors. An alternative release scenario (ARS) for Hydrogen is the severing of the hydrogen gas line to the process unit resulting in a flash fire. The maximum distance to the Lower Flammability Limit (LFL) endpoint would reach only nearby offsite receptors. Alternative release scenarios modeled for the other flammable chemicals used by Cedar Chemical Corporation which are covered by the OSHA Process Safety Management standard were based on the rupturing of unloading hoses. None of these scenarios would result in offsite consequences.

4.0 Accidental Release Prevention Program-
Program 3

The Cedar Chemical Corporation Program 3 Prevention Program applies to three of the processes in our facility. The processes covered by the Risk Management Program Rule are the Acifluorfen Process, the Diuron Process, and the DCA Process. Other processes at Cedar Chemical Corporation are covered by the OSHA Process Safety Management standard. The requirements of the Risk Management Program Rule and the OSHA Process Safety Management standard are nearly identical. Therefore, even the processes not covered by the Risk Management Program Rule have comprehensive programs in place to prevent releases of hazardous chemicals. The Prevention Programs at Cedar Chemical Corporation consist of the following twelve elements:

4.1 Process Safety Information

Cedar Chemical Corporation maintains a variety of technical documents that help ensure the safe operation of our processes. These documents address:

* physical properties of hazardous substances handled
* chemical properties and associated hazards of those substances
* operating parameters and limitation of the process equipment
* design basis and configuration of the equipment
* specific chemical inventories

Cedar Chemical Corporation ensures that the process safety information is available to all Cedar Chemical Corporation employees, the Local Emergency Planning Committee (LEPC), and the local fire department. The Environmental, Health and Safety Manager is responsible for maintaining and updating this information, as needed. Chemical

specific information, including exposure hazards and emergency response/exposure treatment considerations, is provided in material safety data sheets (MSDSs). This information is supplemented by other technical information specific for these chemicals. Continuous attention is given to revisions and updates regarding the hazards of the chemicals used in our processes. Information regarding toxicity, environmental impacts, corrosion concerns, inadvertent mixing hazards, and other safety and health concerns are addressed and communicated to the appropriate parties. Cedar Chemical Corporation also maintains numerous technical documents that provide information about the design and construction of process equipment. This information includes:

* materials of construction
* design pressures
* temperature ratings
* electrical ratings
* flow limits
* block flow diagrams
* consequences of deviation from operating limits
* safety systems
* applicable design codes and standards
* process chemistry
* design basis for relief and ventilation systems

When information was not available for design documents, it was developed through special project committees or during the Process Hazard Analyses (PHAs) of the process. Many of the operating parameters are included in the operating procedures to aid in the safe and proper operation of the process. These documents are used to:

* Train employees
* Perform Process Hazard Analyses (PHAs)
* Help maintain the equipment

All the above mentioned information, in combination with written procedures and trained personnel, provides a basis for establishing inspection and maintenance activities, as well as for evaluating proposed process and facility changes to ensure that safety features in the process are not compromised.

4.2 Process Hazard Analysis

Cedar Chemical Corporation performs and periodically updates process hazard analyses (PHAs) of the covered processes to help identify process hazards and generate recommendations that might improve the safe operation of the process. Within this program, each process is systematically examined to identify hazards and ensure that adequate controls are in place to manage these hazards.
To perform the PHAs, Cedar Chemical Corporation primarily uses the HAZOP technique. The PHAs are conducted using a team of people with experience in engineering and process operation and a leader with experience in process hazard analysis techniques. This team identifies and evaluates hazards of the process as well as accident prevention and/or mitigation measures, when appropriate. The team then prepares a written report describing the results of the analysis, including a list of recommendations ranked according to relative risk ratings assigned by the team. Responsibility to resolve the recommendations is assigned to the process engineer and is tracked through completion. The final resolution of each finding is documented and retained.
To help ensure that the process controls and/or process hazards do not eventually deviate significantly from the original design safety features, Cedar Chemical Corporation periodically updates and revalidates the hazard analysis results. These periodic reviews are conducted at least every 5 years and will be conducted at this frequency until the process is no longer in operation. The results and findings of these updates are documented and retained. The team findings are forwarded to the process engineer for consideration, and the final resolution of the findings is documented and retained.

4.3 Operating Procedures

Cedar Chemical Corporation engineers, operators, and supervisors work together to develop and maintain written operating procedures to define how tasks related to process operation should be safely performed. These written procedures address various modes of process operations, such as:

* Unit startup

* Normal operations
* Temporary operations
* Emergency shutdown
* Normal shutdown
* Initial startup of a new process

The written operating procedures include:

* Steps for safely conducting process tasks
* Applicable process safety information, such as safe operating limits and consequences of process deviations
* Safety and health considerations, such as chemical hazards, personal protective equipment requirements, and action(s) to take in the event of an exposure to a hazardous substance

4.4 Training

Cedar Chemical Corporation trains workers to safely and effectively perform their assigned tasks. The Cedar Chemical Corporation training program includes both initial and refresher training that covers:

* A general overview of the process
* The properties and hazards of the substances in the process
* A detailed review of the process operating procedures and safe work practices

In addition to the above mentioned classroom training, each operator is required to work for a period of time with an experienced operator until clear understanding of the operating procedures is demonstrated. Refresher training is conducted annually as part of the Cedar Chemical Corporation ongoing safety training effort.

4.5 Mechanical Integrity

Cedar Chemical Corporation maintains the mechanical integrity of process equipment to help prevent failures that could endanger workers, the public, or the environment. The Cedar Chemical Corporation mechanical integrity program includes:

* An inspection and testing program to help identify equipment deterioration and damage before the equipment fails
* A quality assurance program to help ensure that the new and replacement equipment meet the design standards required for service in our process
* Procedures for safe work practices such as lockout/tagout, hot work, confined space entry and line or equipment opening
* Training of maintenance personnel
* Documentation of maintenance activities

4.6 Management of Change

Cedar Chemical Corporation has a comprehensive system to manage changes to processes. This program evaluates and approves all proposed changes to chemicals, equipment, and procedures for a covered process to help ensure the change does not negatively affect safe operations. Changes are reviewed to (1) ensure that adequate controls are in place to manage any new hazards, and (2) verify that existing controls have not been compromised by the change. Affected chemical hazard information, process operating limits, and equipment information, as well as, procedures, is updated to incorporate these changes. In addition, operating and maintenance personnel are provided any necessary training related to the change.

4.7 Pre-startup Review

Cedar Chemical Corporation performs a safety review of all new or modified processes prior to placing into service to ensure that these processes have been prepared to operate safely. This review is designed to confirm:

* Construction and equipment are in accordance with design specifications
* Adequate safety, operating, maintenance, and emergency procedures are in place
* Employee training has been completed
* For a covered processes, a PHA has been performed for new processes and management of change requirements have been completed for modified processes

A pre-startup review team uses checklists to verify all aspects of readiness. The review involves field verification of the construction and serves a quality assurance function by requiring verification that accident prevention program

requirements are properly implemented.

4.8 Compliance Audit

Cedar Chemical Corporation conducts periodic audits of covered processes to ensure the Cedar Chemical Corporation prevention program has been effectively implemented and addresses the safety issues of our operations. Compliance audits are conducted at least every three years by a team of hourly and management personnel who are knowledgeable of the Risk Management Program rule. The team evaluates the Cedar Chemical Corporation prevention program and other aspects of the Cedar Chemical Corporation Risk Management Program. The results of the audit are documented, recommendations are resolved, and appropriate enhancements in the prevention program are implemented. Cedar Chemical Corporation maintains records of at least the last two audits conducted.

4.9 Incident Investigation

Cedar Chemical Corporation promptly investigates all incidents that resulted in, or reasonably could have resulted in, a fire/explosion, toxic gas release, major property damage, environmental loss, or personal injury. The goal of each investigation is to determine the facts and develop corrective actions to prevent recurrence of the incident or a similar incident. The results of the investigation are documented, recommendations are resolved, and appropriate process enhancements are implemented.

4.10 Employee Participation

Cedar Chemical Corporation developed a written employee participation program for covered processes and other aspects of our operations, to ensure that the safety concerns are addressed. Cedar Chemical Corporation encourages the active participation of our employees the prevention programs of all processes and tasks at our facility. Employees are consulted on and informed of all aspects of the Cedar Chemical Corporation Risk Management Program and participate on PHA and Compliance Audit teams.

4.11 Hot Work Permits

Cedar Chemical Corporation established a hot work permit program to control spark or flame producing activities that could result in fires or explosions in covered processes at our facility. Cedar Chemical Corporation utilizes a Hot Work Permit form designed after the OSHA fire prevention and protection requirements found in 29 CFR 1910.252(a). Personnel who are to perform the Hot Work are required to complete the form which is reviewed by the area supervisor. The Form must be approved before work can proceed. Training in the use of the Hot Work Permit form is provided to all affected personnel.

4.12 Contractors

Cedar Chemical Corporation established a program to help ensure contractors who are used to supplement the workforce during periods of increased maintenance or construction, conduct their work in a safe manner. The program reviews the record of all contractors to ensure that Cedar Chemical Corporation hires contractors who can safely perform work on or near covered process equipment. Our program ensures that contractors:

* Perform their work in a safe manner
* Have the appropriate knowledge and skills
* Are aware of the hazards in the workplace
* Understand what to do in the event of an emergency
* Understand and follow Cedar Chemical Corporation safety rules
* Inform Cedar Chemical Corporation personnel of any hazards identified during their work

This is accomplished by providing contractors with:

* A process overview
* Information about safety and health hazards
* Emergency response plan requirements
* Safe work practices prior to beginning work

5.0 Chemical Specific Prevention Steps

In addition to the required prevention program elements, Cedar Chemical Corporation has implemented safety features specific to the hazardous substances used at our facility. The following describe some of these safety features:

5.1 Nitric Acid

Nitric acid is readily soluable in water. Diluting the concentrated acid with water quickly and effectively reduces the toxic cloud formation. Water cannons are strategically located throughout the facility and ample amounts of water would be directed on a nitric acid release to reduce the formation of a vapor cloud. Soda ash is kept on hand for neutralization of acid spills. Holding tanks are available to hold spilled nitric acid and water until the material can be neutralized.

5.2 Dimethylamine

Dimethylamine (DMA) is stored and used out of railroad tankcars to minimize the total amount in any single vessel. Tankcars are located on a protected rail spur and all proper precautions are taken to prevent accidental movement of the tankcar. Tankcars are grounded to prevent the build-up of static charges which could create a spark. The vapor space of the tankcar is replaced with nitrogen, an inert gas, as the tank is off loaded. This nitrogen blanket prevents oxygen from combining with the DMA vapor and forming a mixture which would support combustion.

5.3 Hydrogen

Hydrogen is stored in a secure area within the Cedar Chemical Corporation plant site. The hydrogen storage tank and associated equipment is maintained by the vender who specializes in the handling of hydrogen. The hydrogen storage tank system has numerous state-of-the-art safety features which minimize the potential for releases or other incidents.

6.0 Five-Year Accident History

Cedar Chemical Corporation has completed a five-year accident history study that indicates continued improvement in safe operations at our facility. We investigate every incident carefully to determine ways to prevent similar incidents from occurring. The following table is a summary of accidental releases over the last five years:

Year: 1999
Number of Releases: 1
Substance Released: Nitric Acid (98%)
Consequences: Minor chemical burn to the hand of an employee

7.0 Emergency Response Programs

Cedar Chemical Corporation maintains a written emergency response program, which is in place to protect worker and public safety as well as the environment. The program consists of procedures for responding to a release of a regulated substance, including the possibility of a fire or explosion if a flammable substance is accidentally released.
The Cedar Chemical Corporation emergency response program includes procedures for:

* Informing the local LEPC, fire department and public about accidental releases that could reasonably result in offsite consequences,
* Providing proper first aid and emergency treatment for accidental human exposure to hazardous substances,
* Evacuation plans and methods for accounting for personnel after an evacuation,
* Controlling and containing accidental releases of hazardous substances, including the use of emergency response equipment,
* Inspecting and maintaining emergency response equipment,
* Postincident cleanup and decontamination requirements, and
* Reviewing and updating the emergency response plan.

Cedar Chemical Corporation maintains an emergency response team trained in these emergency response procedures. All Cedar Chemical Corporation personnel are trained in evacuation procedures. Drills are conducted periodically to test our evacuation and emergency response procedures. Annual drills are conducted with local emergency response agencies to ensure emergency plans are properly coordinated.

8.0 Planned Changes To Improve Safety

Cedar Chemical Corporation continuously strives to improve the safety of our processes through incident investigation, Process Hazard Analysis, and employee suggestions. Our engineering and technical personnel stay abreast with technology advancements, which may improve the safety of our processes.